1. (Previously Presented) A method of segmenting input data representing an image in order to locate a part of said image, said input data comprising voxels, said method comprising the steps of:

(a) storing a graph data structure in memory of a computer system, said graph data structure comprising nodes and edges having weights,

(i) said nodes comprising at least one first node s, at least one second node t, and a plurality of voxel nodes, and

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(ii) said edges comprising

(A) at least one first edge connecting said first node s to at least one of said voxel nodes,

(B) at least one second edge connecting at least one of said voxel nodes to said second node t, and

(C) at least one neighbor edge connecting at least one of said voxel nodes to another one of said voxel nodes;

(b) designating one of said voxel nodes as corresponding voxel node for each of said voxels;

(c) partitioning said nodes into at least two groups, one including said first node s and another one including said second node t, by a minimum-cut algorithm; and

(d) partitioning said voxels into at least two segments by assigning each of said voxels to the segment corresponding to the group to which said corresponding voxel node for the voxel belongs.

2. (Previously Presented) The method of claim 1 wherein:

said input data further comprises a neighborhood structure, and

at least one of said neighbor edges is between two of said voxel nodes designated as said corresponding voxel nodes for said two of said voxels that are neighbors to one another according to said neighborhood structure.

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3. (Previously Presented) The method of claim 2, wherein said voxels comprise at least one of a portion of or an entire DIM-dimensional array of data.

4. (Previously Presented) The method of claim 3, wherein said neighborhood structure comprises a k-th nearest neighborhood structure.

5. (Previously Presented) The method of claim 3, wherein at least one part of said array of data represents one or more physical properties of said voxels at regular grid positions within an interior of solid bodies.

6. (Previously Presented) The method of claim 4, wherein at least one part of said array of data represents one or more physical properties of said voxels at regular grid positions within an interior of solid bodies.

7. (Previously Presented) The method of claim 3, wherein a size of the DIM is at least 3.

8. (Previously Presented) The method of claim 1, wherein said input data further comprises a likelihood number for each of said voxels, and further comprising the step of:

(e) setting weights for said first, second and neighbor edges for each voxel node by setting:

(i) a weight for said first edge connecting said first node s with said voxel node to a first nonnegative number *w*1, and

(ii) a weight for said second edge connecting said voxel node with said second node t to a second nonnegative number *w*2 so that the first non-negative number minus the second non-negative number equals the sum of likelihood numbers for all of said voxels to which said voxel node is designated as said corresponding voxel node.

9. (Previously Presented) The method of claim 8, wherein:

said input data further comprises a neighborhood structure, and

at least one of said neighbor edges is between two of said voxel nodes designated as said corresponding voxel nodes for two of said voxels that are neighbors according to said neighborhood structure.

10. (Previously Presented) The method of claim 9, wherein said voxels comprise at least one of a portion of or an entire a DIM-dimensional array of data.

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11. (Previously Presented) The method of claim 10, wherein said neighborhood structure comprises a k-th nearest neighborhood structure.

12. (Previously Presented) The method of claim 10, wherein at least one part of said array of data represents one or more physical properties at regular grid positions within an interior of solid bodies.

13. (Previously Presented) The method of claim 11, wherein at least one part of said array of data represents one or more physical properties at regular grid positions within an interior of solid bodies.

14. (Previously Presented) The method of claim 10, wherein a size of the DIM is at least three.

15. (Currently Amended) A method for associating particular data in a space which has at least three dimensions, comprising the steps of:

- receiving first data corresponding to at least one first point in the space, the first data for each one of the at least one first point including first information indicative of a likelihood of an association of the first data ~~to~~ with at least a first part of the respective first point;

- receiving second data corresponding to at least one second point in the space, the second data for each one of the at least one second point including second information indicative of a likelihood of an association of the second data ~~to~~ with at least a second part of the respective second point; and

- associating the first and second points to the respective first and second parts based on the first and second information.

16. (Previously Presented) The method of claim 15, wherein the first data corresponds to the a first voxel, and wherein the second data corresponds to second voxel.

17. (Previously Presented) The method of claim 15, wherein the first information includes first weights, and wherein the second information includes second weights.

18. (Previously Presented) The method of claim 17, wherein the first point is associated with the first part if the first weight indicates a higher likelihood for such association.

19. (Previously Presented) The method of claim 17, wherein the second point is associated with the second part if the second weight indicates a higher likelihood for such association.

20. (Previously Presented) The method of claim 15, wherein a connection between the at least one first point and the at least one second point provides a third weight which is indicative of the at least one first point belonging with the at least one second point.

21. (Previously Presented) The method of claim 20, wherein the third weight influences whether the at least one first point can be placed separately into the first part from the at least one second point.

22. (Previously Presented) The method of claim 17, wherein the at least one first point is associated with the first part if the first weight is greater than a predetermined threshold.

23. (Previously Presented) The method of claim 17, wherein the at least one second point is associated with the second part if the second weight is greater than a predetermined threshold.

24. (Previously Presented) The method of claim 20, wherein the associating step comprises determining whether the at least one first point is to be associated with the first part made based on the first weight and the third weight.

25. (Previously Presented) The method of claim 24, wherein the associating step comprises determining whether the at least one second point is to be associated with the second part made based on the second weight and the third weight.

26. (Previously Presented) The method of claim 17,

wherein the at least one first point is associated with the first part if the first weight is greater than a first threshold,

wherein the at least one second point is associated with the second part if the second weight is greater than a second threshold,

wherein the associating step comprises determining whether the at least one first point is to be associated with the first part made based on the first weight and the third weight,

wherein the associating step comprises determining whether the at least one second point is to be associated with the second part made based on the second weight and the third weight, and

wherein a connection between the at least one first point and the at least one second point provides a third weight which is indicative of the at least one first point belonging with the at least one second point.

27. (Previously Presented) The method of claim 26,

wherein a first possibility is a possibility that the first and second points are associated with the first part,

wherein a second possibility is a possibility that the first and second points are associated with the second part,

wherein a third possibility is a possibility that the at least one first point is associated with the first part, and the at least one second point is associated with the second part, and

wherein a fourth possibility is a possibility that the at least one first point is associated with the second part, and the at least one second point is associated with the first part.

28. (Previously Presented) The method of claim 27, wherein the first possibility is associated with a first cost data which is obtained by adding the first and second thresholds,

wherein the second possibility is associated with a second cost data which is obtained by adding the first and second weights,

wherein the third possibility is associated with a third cost data which is obtained by adding the first threshold, the second weight and the third weight, and

wherein the fourth possibility is associated with a fourth cost data which is obtained by adding the first weight, the second thresholds and the third weight.

29. (Previously Presented) The method of claim 28,

wherein the first possibility is prevalent when the first cost data is smaller than the second, third and fourth cost data,

wherein the second possibility is prevalent when the second cost data is smaller than the first, third and fourth cost data,

wherein the third possibility is prevalent when the third cost data is smaller than the first, second and fourth cost data, and

wherein the fourth possibility is prevalent when the fourth cost data is smaller than the first, second and third cost data.

30. (Previously Presented) The method of claim 15, wherein the first and second points are connected to one another via edges so as to form a graph structure.

31. (Previously Presented) The method of claim 15, wherein first data and the second data form a graph data structure which comprises nodes and edges.

32. (Previously Presented) The method of claim 31, further comprising the step of:

assigning weights for the edges between the first and second points, wherein a first one of the weights is provided for a first edge of the edges connecting the first point with a voxel node to a first nonnegative number, and wherein a second one of the weights is provided for a second edge of the edges connecting the voxel node with the second point to a second nonnegative number.

33. (Previously Presented) The method of claim 15, further comprising the step of:

- receiving third data corresponding to at least one third point in the space, the third data for each one of the at least one third point including third information indicative of a likelihood of an association of the third data to at least a third part of the respective third point, wherein the associating step includes the substep of associating the at least one third point with the first and second points based on the first, second and third information.

34. (Previously Presented) A system of segmenting input data representing an image in order to locate a part of said image, said input data comprising voxels, said system comprising:

- a memory arrangement including thereon a computer program; and
- a processing arrangement which, when executing the computer program, is configured to:

(a) store a graph data structure in the memory arrangement, said graph data structure comprising nodes and edges having weights,

(i) said nodes comprising at least one first node s, at least one second node t, and a plurality of voxel nodes, and

(ii) said edges comprising

(A) at least one first edge connecting said first node s to at least one of said voxel nodes,

(B) at least one second edge connecting at least one of said voxel nodes to said second node t, and

(C) at least one neighbor edge connecting at least one of said voxel nodes to another one of said voxel nodes;

(b) designate one of said voxel nodes as corresponding voxel node for each of said voxels,

(c) partition said nodes into at least two groups, one including said first node s and another one including said second node t, by a minimum-cut algorithm, and

(d) partition said voxels into at least two segments by assigning each of said voxels to the segment corresponding to the group to which said corresponding voxel node for the voxel belongs.

35. (Currently Amended) A system for associating particular data in a space which has at least three dimensions, comprising:

a processing arrangement which, when executing the computer program, is configured to:

- receive first data corresponding to at least one first point in the space, the first data for each one of the at least one first point including first information indicative of a likelihood of an association of the first data ~~to~~ with at least a first part of the respective first point,
- receiving second data corresponding to at least one second point in the space, the second data for each one of the at least one second point including second information indicative of a likelihood of an association of the second data ~~to~~ with at least a second part of the respective second point, and

- associate the first and second points to the respective first and second parts based on the first and second information.

36. (Previously Presented) A software storage medium which, when executed by a processing arrangement, is configured to segment input data representing an image in order to locate a part of said image, said input data comprising voxels, said software storage medium comprising:

a software program including:

- a first module which, when executed, stores a graph data structure in the memory arrangement, said graph data structure comprising nodes and edges having weights, wherein

(i) said nodes comprise at least one first node s, at least one second node t, and a plurality of voxel nodes, and

(ii) said edges comprise:

(A) at least one first edge connecting said first node s to at least one of said voxel nodes,

(B) at least one second edge connecting at least one of said voxel nodes to said second node t, and

(C) at least one neighbor edge connecting at least one of said voxel nodes to another one of said voxel nodes;

- a second module which, when executed, designates one of said voxel nodes as corresponding voxel node for each of said voxels,
- a third module which, when executed, partitions said nodes into at least two groups, one including said first node s and another one including said second node t, by a minimum-cut algorithm, and
- a fourth module which, when executed, partitions said voxels into at least two segments by assigning each of said voxels to the segment corresponding to the group to which said corresponding voxel node for the voxel belongs.

37. (Currently Amended) A software storage medium which, when executed by a processing arrangement, is configured to associate particular data in a space which has at least three dimensions, the software storage medium comprising:

a software program including:

- a first module which, when executed, receives first data corresponding to at least one first point in the space, the first data for each one of the at least one first point including first information indicative of a likelihood of an association of the first data ~~to~~ with at least a first part of the respective first point,
- a second module which, when executed, receives second data corresponding to at least one second point in the space, the second data for each one of the at least one second point including second information indicative of a likelihood of

an association of the second data ~~to~~ with at least a second part of the respective second point, and

- a third module which, when executed, associates the first and second points to the respective first and second parts based on the first and second information.

38. (Previously Presented) The method of claim 1, wherein, in step (a), said nodes and said edges are segmented, and wherein, in step (c), said minimum-cut algorithm is implemented on said segmented nodes and edges.

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39. (Previously Presented) The system according to claim 34, wherein, in step (a), the processing arrangement segments said nodes and said edges, and wherein, in step (c), the processing arrangement implements said minimum-cut algorithm on said segmented nodes and edges.

40. (Previously Presented) The software storage medium according to claim 36, wherein the first module segments said nodes and said edges, and wherein the third module implements said minimum-cut algorithm on said segmented nodes and edges.